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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,092	12/21/1999	JOHN W. HORGAN	042390.P7178	5766

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EXAMINER

WARREN, MATTHEW E

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/470,092

Applicant(s)

HORIGAN ET AL.

Examiner

Matthew E. Warren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This Office Action is in response to the CPA filed on March 17, 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuribayashi et al. (US 6,429,387 B1) in view of Martinez (US 4,471,408).

Kuribayashi et al. shows (figs. 5A, 5B, 6B, 14B) an integrated circuit package comprising a substrate including an IC (5). Solder balls (7) are selectively deposited or not deposited in specified areas. The presence or absence of a solder ball is denoted digitally by a "1" or "0" (col. 16, lines 39-66). The package also is coupled to a circuit board (5A in fig. 14B). Kuribayashi shows all of the elements of the claims except the encoded region to provide information based on selective deposition. Martinez discloses (col. 2, lines 3-10) an integrated circuit in which pins are selectively bent or broken to encode the device. Pins that are broken and do not make contact with pin of a network have no voltage and inherently denote a logic level (1) and vice-versa. The pins are electrically coupled to a ground line and indicate a voltage supply level. Encoding may also be provided by coupling the pin to a node of a resistor (col. 1, lines 24-35). The pin may be assigned a configuration where the presence of a pin denotes

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ground and so forth (col. 2, lines 5-10). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the selectively deposited solder balls of the BGA of Kuribayashi by using the presence or absence of the balls to encode an integrated circuit with information because Martinez teaches the selective removal of electrical connections can be used to encode the semiconductor integrated circuit.

Claims 3-6 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuribayashi et al. (US 6,429,387 B1) in view of Martinez (US 4,471,408) as applied to claims 1, 2, and 8 above, and further in view of Wenzel et al. (US 6,150,724).

Kuribayashi et al. in view of Martinez shows all of the elements of the claims except the IC being a processor, which Wenzel et al. discloses (col. 6, lines 60-67). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the IC of Kuribayashi and Martinez by using a processor as the IC because Wenzel teaches that processors are just one of the many known devices that could be formed in BGA package.

Response to Arguments

Applicant's arguments, see page 5 of the Response, filed March 17, 2003, with respect to the rejection(s) of claim(s) 1-14 under 103 (including commonly owned Samaras) have been fully considered and are persuasive. Therefore, the rejection has

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been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kuribayashi et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (703) 305-0760. The examiner can normally be reached on Mon-Thurs, and alternating Fri, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MEW
MEW
May 2, 2003



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800